

WHAT IS CLAIMED IS:

1. A device for connecting a beam to pillars or similar supporting structural elements in order to erect buildings, particularly multistory buildings, by means of prefabricated concrete components, comprising first  
5 means for connecting two end regions of the beam to the pillars and second means for connecting the beam to the pillars, said first connection means being adapted to provide a coupling at least of the hinge type between each one of the two end regions of the beam and the corresponding pillar, said second connection means comprising at least one tension element that  
10 passes through the beam and is connected to the pillars by means of ends thereof that protrude from the beam.
2. The device according to claim 1, wherein said at least one tension element passes with play through a passage formed in the beam.
3. The device according to claim 2, wherein said passage is formed by at  
15 least one tubular body that is embedded in the body of the beam.
4. The device according to claim 1, wherein said at least one tension element protrudes with ends thereof from the beam proximate to the end regions of the beam.
5. The device according to claim 2, wherein said passage is curved or  
20 shaped like a broken line in which the concavity is directed upward.
6. The device according to claim 2, wherein multiple tension elements are arranged inside said passage.
7. The device according to claim 3, wherein said tubular body is substantially rigid.
- 25 8. The device according to claim 3, wherein said tubular body is flexible.
9. The device according to claim 3, wherein said tension element is constituted by a bar or the like.
10. The device according to claim 3, wherein said tension element is constituted by a cable element.
- 30 11. The device according to claim 1, wherein said beam is a beam of the

pre-stressed type.

12. The device according to claim 1, wherein said tension element is formed monolithically.

13. The device according to claim 1, wherein said tension element is  
5 composed of multiple segments that are connected one another.

14. The device according to claim 13, wherein said segments are partly rigid and partly flexible.

15. The device according to claim 1, wherein said at least one tension element is connected, by means of the end thereof that protrudes from the  
10 beam, to the pillars above the connection regions formed by said first connection means.

16. The device according to claim 1, wherein said at least one tension element comprises an auxiliary tension element that passes with play through at least one auxiliary passage that is formed within the beam and is  
15 curved or shaped like a broken line in which the concavity is directed downward, said auxiliary tension element being connected, by means of ends thereof that protrude from the beam proximate to the longitudinal ends thereof, to the pillars below the connection regions formed by said first connection means.

20 17. The device according to claim 1, wherein said first connection means comprise, for each end region of the beam, two regions for connecting the beam to the corresponding pillar, said two connection regions being spaced one another horizontally transversely to the longitudinal extension of the beam.

25 18. The device according to claim 17, wherein said first connection means comprise, for each one of said connection regions, a cavity that is formed in the body of the corresponding pillar and is open on the side of said pillar that is directed toward the beam, said cavity accommodating a bracket that protrudes from said side of the pillar and is fixed to said beam.

30 19. The device according to claim 18, wherein said cavity is formed by a

box-like body that is embedded in said pillar.

20. The device according to claim 18, wherein said bracket protrudes from said side of the pillar and forms a support for an end region of said beam, said bracket being fixed to said beam with a coupling at least of the  
5 hinge type.

21. The device according to claim 18, wherein said cavity and said bracket are inclined upward toward said beam.

22. The device according to claim 18, wherein said bracket is fixed to said beam by bolting.

10 23. The device according to claim 2, wherein said passage, starting from the end regions of the beam toward an intermediate region of the longitudinal extension of the beam, gradually approaches the lower side of the beam.

24. The device according to claim 16, wherein said auxiliary passage,  
15 starting from the end regions of the beam toward an intermediate region of the longitudinal extension of the beam, gradually approaches the upper side of the beam.

25. The device according to claim 16, wherein in said pillar there is a passage for said tension element and/or said auxiliary tension element that  
20 connects said beam to said pillar.

26. The device according to claim 25, wherein in said pillar said passages for said tension element and/or said auxiliary tension element are formed by at least one tubular body that is embedded in said pillar.

27. The device according to claim 16, further comprising means for  
25 tensioning said at least one tension element and/or said at least one auxiliary tension element.

28. The device according to claim 16, wherein said at least one tension element and/or said at least one auxiliary tension element have ends constituted by threaded portions that engage respective nuts that abut  
30 against the corresponding pillar and can be tightened in order to tension said

element and/or said auxiliary tension element.

29. The device according to claim 19, wherein said box-like body and said tubular body embedded in the body of the pillar are rigidly connected to each other.

5        30. The device according to claim 16, wherein the tubular body or the auxiliary tubular body embedded in said beam for the passage of said tension element and/or of said auxiliary tension element is connected to the reinforcement frame of the beam.

10       31. The device according to claim 18, wherein said beam has a lower recess for supporting said bracket at an end thereof that is designed to be directed toward said pillar.